

Amendments to the Claims

This listing of claims replaces all prior versions and listings of claims in the application.

Listing of Claims

1-20. (Canceled)

21. (Currently Amended) A personal computer comprising:

a semiconductor film provided over a substrate and comprising a source region, a drain region and a channel formation region provided between said source region and said drain region; and

a gate electrode provided adjacent to said channel formation region with a gate insulating film therebetween,

wherein lattices are continuously connected to each other at a grain boundary of said semiconductor film between different crystals,

wherein atoms constituting the different crystals at the grain boundary correspond to each other respectively or have dangling bonds neutralized by hydrogen or and halogen elements, and

~~wherein a halogen element is contained in said semiconductor film with a concentration of 1×10^{15} to 1×10^{20} atoms/cm³.~~

wherein the semiconductor film is configured for a heat treatment exceeding 700°C to remove a catalytic element by gettering.

22. (Previously Presented) A computer according to claim 21 further comprising an auxiliary capacitance.

23. (Previously Presented) A computer according to claim 21 further comprising:
a pixel electrode;
an opposite electrode; and
a liquid crystal provided between said pixel electrode and said opposite electrode.

24. (Canceled)

25. (Previously Presented) A computer according to claim 21 wherein a channel length of said channel formation region is 2 μm or shorter.

26-41. (Canceled)

42. (Previously Presented) A computer according to claim 21 wherein a direction of movement of a carrier in said channel formation region coincides with a direction of extension of said grain boundary.

43. (Previously Presented) A computer according to claim 21 wherein the semiconductor film comprises silicon.

44. (Previously Presented) A computer according to claim 21 wherein the semiconductor film comprises a rod-shaped crystal.

45. (Previously Presented) A computer according to claim 21 wherein the semiconductor film comprises a flattened rod-shaped crystal.

46. (Previously Presented) A computer according to claim 23 wherein the pixel electrode comprises ITO.

47. (Currently Amended) A personal computer comprising:
a semiconductor film provided over a substrate and comprising a source region, a drain region and a channel formation region provided between said source region and said drain region; and
a gate electrode provided adjacent to said channel formation region with a gate insulating film therebetween, and
a thermal oxidation film provided between the semiconductor film and the gate electrode, wherein lattices are continuously connected to each other at a grain boundary of said semiconductor film between different crystals,
wherein atoms constituting the different crystals at the grain boundary correspond to each other respectively or have dangling bonds neutralized by hydrogen or and halogen elements, and
~~wherein a halogen element is contained in said semiconductor film with a concentration of 1×10^{15} to 1×10^{20} atoms/cm³.~~
wherein the semiconductor film is configured for a heat treatment exceeding 700°C to remove a catalytic element by gettering.

48. (Previously Presented) A computer according to claim 47 further comprising an auxiliary capacitance.

49. (Previously Presented) A computer according to claim 47 further comprising:
a pixel electrode;
an opposite electrode; and
a liquid crystal provided between said pixel electrode and said opposite electrode.

50. (Previously Presented) A computer according to claim 47 wherein a channel length of said channel formation region is 2 μm or shorter.

51. (Previously Presented) A computer according to claim 47 wherein a direction of movement of a carrier in said channel formation region coincides with a direction of extension of said grain boundary.

52. (Previously Presented) A computer according to claim 47 wherein the semiconductor film comprises silicon.

53. (Previously Presented) A computer according to claim 47 wherein the semiconductor film comprises a rod-shaped crystal.

54. (Previously Presented) A computer according to claim 47 wherein the semiconductor film comprises a flattened rod-shaped crystal.

55. (Previously Presented) A computer according to claim 49 wherein the pixel electrode comprises ITO.

56. (Currently Amended) A personal computer comprising:
a semiconductor film provided over a substrate and comprising a source region, a drain region, a channel formation region provided between said source region and said drain region, and a low concentration impurity region provided between the channel formation region and at least one of the source region and the drain region; and
a gate electrode provided adjacent to said channel formation region with a gate insulating film therebetween,
wherein lattices are continuously connected to each other at a grain boundary of said semiconductor film between different crystals,
wherein atoms constituting the different crystals at the grain boundary correspond to each other respectively or have dangling bonds neutralized by hydrogen or and halogen elements, and

~~wherein a halogen element is contained in said semiconductor film with a concentration of 1×10^{15} to 1×10^{20} atoms/cm³;~~

wherein the semiconductor film is configured for a heat treatment exceeding 700°C to remove a catalytic element by gettering.

57. (Previously Presented) A computer according to claim 56 further comprising an auxiliary capacitance.

58. (Previously Presented) A computer according to claim 56 further comprising:
a pixel electrode;
an opposite electrode; and
a liquid crystal provided between said pixel electrode and said opposite electrode.

59. (Previously Presented) A computer according to claim 56 wherein a channel length of said channel formation region is 2 μm or shorter.

60. (Previously Presented) A computer according to claim 56 wherein a direction of movement of a carrier in said channel formation region coincides with a direction of extension of said grain boundary.

61. (Previously Presented) A computer according to claim 56 wherein the semiconductor film comprises silicon.

62. (Previously Presented) A computer according to claim 56 wherein the semiconductor film comprises a rod-shaped crystal.

63. (Previously Presented) A computer according to claim 56 wherein the semiconductor film comprises a flattened rod-shaped crystal.

64. (Previously Presented) A computer according to claim 58 wherein the pixel electrode comprises ITO.

65-67. (Canceled)

68. (Previously Presented) A personal computer according to claim 21 wherein said substrate comprises a silicon wafer.

69. (Previously Presented) A personal computer according to claim 47 wherein said substrate comprises a silicon wafer.

70. (Previously Presented) A personal computer according to claim 56 wherein said substrate comprises a silicon wafer.